Docket No.: P16345

I. IN THE CLAIMS:

Claims 1, 11, 14, 22, and 26 are currently amended. The status of the claims is as follows:

Listing of Claims

1. (Currently Amended) A method of retraining a receiver comprising:

[~~determining~~] identifying a minimum transition density for a derived clock data link to the receiver; and

intermittently transmitting one or more retraining flits on the data link to the receiver to satisfy the minimum transition density, wherein modulation-coding is not employed.

2. (Original) The method of claim 1, further including:

defining control data and payload data for the retraining flit;

determining error detection data for the retraining flit based on the control data and the payload data, the control data, the payload data and the error detection data having sufficient transitions to meet the minimum transition density; and

transmitting the retraining flit to the receiver over the data link as part of a data signal.

3. (Original) The method of claim 2, further including:

identifying a plurality of cyclic redundancy code (CRC) polynomials;

determining a corresponding CRC checksum for each of the plurality of CRC polynomials based on the control data and the payload data; and

selecting a CRC polynomial from the plurality of CRC polynomials, the selected CRC polynomial resulting in a CRC checksum that has sufficient transitions to meet the minimum transition density, the error detection data including the resulting CRC checksum.

4. (Original) The method of claim 3, further including calculating each corresponding CRC checksum.

5. (Original) The method of claim 2, further including:

defining the payload data to have a maximum possible number of transitions; and

staggering the payload data across a payload region of the flit based on switching noise constraints.

6. (Original) The method of claim 2, wherein the flit has a width defined by a payload region and a sideband region, the payload region including the payload data and the sideband region including the error detection data and the control data.

7. (Original) The method of claim 2, further including transmitting multiple copies of the retraining flit to meet the minimum transition density.

8. (Original) The method of claim 2, further including:

counting an amount of time elapsed since a previous retraining flit was transmitted; and

transmitting the retraining flit based on the amount of time elapsed.

9. (Original) The method of claim 2, further including:

receiving the retraining flit at the receiver as part of a data signal; and

checking the data signal for transmission errors.

10. (Original) The method of claim 9, further including:

adjusting an internal clock of the receiver based on a number of transitions in the data signal; and

filtering the retraining flit out of the data signal.

11. (Currently Amended) A method of retraining a receiver comprising:

[~~determining~~] identifying a required minimum transition density for a derived clock data link to the receiver;

counting an amount of time elapsed since a previous retraining flit was transmitted to the receiver;

defining control data and payload data for a current retraining flit;

staggering the payload data across a payload region of the current retraining flit based on switching noise constraints;

determining a cyclic redundancy code (CRC) checksum for the retraining flit based on the control data and the payload data, the control data, the payload data and the checksum having sufficient transitions to meet the required minimum transition density;

transmitting multiple copies of the current retraining flit to the receiver based on the required minimum transition density and the amount of time elapsed;

receiving the current retraining flit at the receiver as part of a data signal;

adjusting an internal clock of the receiver based on a number of transitions in the data signal;

checking the data signal for transmission errors; and

filtering the retraining flit out of the data signal, wherein modulation-coding is not employed.

12. (Original) The method of claim 11, further including:

identifying a plurality of CRC polynomials;

determining a corresponding CRC checksum for each of the plurality of CRC polynomials based on the control data and the payload data; and

selecting a CRC polynomial from the plurality of CRC polynomials, the selected CRC polynomial resulting in a CRC checksum that has sufficient transitions to meet the minimum transition density, the error detection data including the resulting CRC checksum.

13. (Original) The method of claim 11, further including calculating each corresponding CRC checksum.

14. (Currently Amended) A transmitter comprising:

a link controller to [~~determine~~] identify a minimum transition density for a derived clock data link to intermittently transmit over the data link one or more retraining flits to satisfy the minimum transition density, wherein modulation-coding is not employed.

15. (Previously Presented) The transmitter of claim 14, wherein the link controller further includes:

a data module to define control data and payload data for the retraining flit;

an error module to determine error detection data for the retraining flit based on the control data and the payload data, the control data, the payload data and the error detection data having sufficient transitions to meet the minimum transition density; and

a transmission module to transmit the retraining flit to the receiver over the data link as part of a data signal.

16. (Original) The transmitter of claim 15, wherein the error module is to identify a plurality of cyclic redundancy code (CRC) polynomials, to determine a corresponding CRC checksum for each of the plurality of CRC polynomials based on the control data and the payload data, and to select a CRC polynomial from the plurality of CRC polynomials, the selected CRC polynomial to result in a CRC checksum that has sufficient transitions to meet the minimum transition density, the error detection data to include the resulting CRC checksum.

17. (Original) The transmitter of claim 16, wherein the error module is to calculate each corresponding CRC checksum.

18. (Original) The transmitter of claim 15, wherein the data module is to define the payload data to have a maximum possible number of transitions and to stagger the payload data across a payload region of the flit based on switching noise constraints.

19. (Original) The transmitter of claim 15, wherein the flit is to have a width defined by a payload region and a sideband region, the payload region to include the payload data and the sideband region to include the error detection data and the control data.

20. (Original) The transmitter of claim 14, wherein the link controller is to transmit multiple copies of the retraining flit to meet the minimum transition density.

21. (Original) The transmitter of claim 14, further including a timer to count an amount of time elapsed since a previous retraining flit was transmitted, the link controller to transmit the retraining flit based on the amount of time elapsed.

22. (Currently Amended) A communication system comprising:

a derived clock data link;

a receiver coupled to the data link; and

a transmitter coupled to the data link, the transmitter including a link controller to [~~determine~~] identify a minimum transition density for the data link and to intermittently transmit a retraining flit to the receiver over the data link to satisfy the minimum transition density, wherein modulation-coding is not employed.

23. (Original) The system of claim 22, wherein the receiver and the transmitter are processors and the data link is a bus interconnecting the processors.

24. (Original) The system of claim 22, wherein the link controller further includes:

a data module to define control data and payload data for the retraining flit; and

an error module to determine error detection data for the retraining flit based on the control data and the payload data, the control data, the payload data and the error detection data to have sufficient transitions to meet the minimum transition density.

25. (Original) The system of claim 24, wherein the error module is to identify a plurality of CRC polynomials, to determine a corresponding CRC checksum for each of the plurality of CRC polynomials based on the control data and the payload data, and to select a CRC polynomial from the plurality of CRC polynomials, the selected CRC polynomial to result in a CRC checksum that has sufficient transitions to meet the minimum transition density, the error detection data to include the resulting CRC checksum.

26. (Currently Amended) A machine readable medium comprising a stored set of instructions

capable of being executed by a processor to:

[~~determine~~] identify a minimum transition density for a data link to a receiver; and

intermittently transmit a retraining flit to the receiver over the data link to satisfy the minimum transition density wherein modulation-coding is not employed.

27. (Original) The medium of claim 26, wherein the instructions are further capable of being executed to:

define control data and payload data for the retraining flit; and

determine error detection data for the retraining flit based on the control data and the payload data, the control data, the payload data and the error detection data having sufficient transitions to meet the minimum transition density.